UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

VIA ELECTRONIC MAIL
DELIVERY RECEIPT REQUESTED

Lou Ann Lee, Environmental Field Supervisor
Antero Resources Corporation
llee@anteroresources.com

Re: Notice and Finding of Violation
Antero Resources Corporation
Marietta, Ohio

Dear Ms. Lee:

The U.S. Environmental Protection Agency is issuing the enclosed Notice and Finding of Violation ("NOV/FOV") to Antero Resources Corporation ("Antero" or "you") under Section 113(a) of the Clean Air Act ("CAA"), 42 U.S.C. § 7413(a). We find that you are violating the New Source Performance Standards ("NSPS") for Crude Oil and Natural Gas Production, Transmission and Distribution ("Subpart OOOO"), the NSPS for Crude Oil and Natural Gas Facilities ("Subpart OOOOa"), and terms of your Ohio Permits to Install and Operate ("PTIOs") at your Ohio facilities.

Section 113 of the CAA gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us (via teleconference) about the violations alleged in the NOV/FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the NOV/FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contacts in this matter are Constantinos Loukeris and Natalie Topinka. You may contact them at (312) 353-6198 and loukeris.constantinos@epa.gov, or (312) 886-3853 and topinka.natalie@epa.gov, respectively, to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

SARAH MARSHALL Digitally signed by SARAH MARSHALL Date: 2020.10.02 11:35:40 -05'00'

Sarah G. Marshall
Chief, Air Enforcement and Compliance Assurance Section (MI/WI)

Enclosure

cc: Bob Hodanbosi, Ohio EPA, bob.hodanbosi@epa.ohio.gov
James Kavalec, Ohio EPA, james.kavalec@epa.ohio.gov
Devan Roof, Ohio EPA, devan.roof@epa.ohio.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Antero Resources Corporation	)	**NOTICE AND FINDING OF**
	)	**VIOLATION**
Marietta, Ohio	)	
	)	**EPA-5-21-OH-01**
Proceedings Pursuant to	)	
Section 113(a)(1) and (3) of the	)	
the Clean Air Act, 42 U.S.C.	)	
§ 7413(a)(1) and (3)	)	
	)	

NOTICE AND FINDING OF VIOLATION

The U.S. Environmental Protection Agency (EPA) is issuing this Notice and Finding of Violation ("NOV/FOV") under Section 113(a)(1) and (3) of the Clean Air Act ("CAA"), 42 U.S.C. § 7413(a)(1) and (3). Based on available information and as explained below, EPA finds that Antero Resources Corporation ("Antero") is violating Section 111(e) of the CAA, 42 U.S.C. § 7411(e). Specifically, Antero is violating the Standards of Performance ("NSPS") for Crude Oil and Natural Gas Production, Transmission and Distribution at 40 C.F.R. Part 60, Subpart OOOO; the NSPS for Crude Oil and Natural Gas Facilities at 40 C.F.R. Part 60, Subpart OOOOa; and terms of your Ohio Permits to Install and Operate ("PTIOs") issued under the Ohio State Implementation Plan ("SIP"), as follows:

Regulatory Authority

1. The CAA is designed to, among other things, protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population. *See* Section 101(b)(1) of the CAA, 40 U.S.C. § 7401(b)(1).

2. The CAA authorizes EPA to take enforcement action if EPA finds that any person is in violation of any SIP requirements, including limitations and conditions contained in permits issued pursuant to a SIP, such as these limitations and conditions contained in GP PTIO 12.1, GP PTIO 12.2, Fuller Well Pad PTIO, Schulz Well Pad PTIO, Troyer Well Pad PTIO, Warner Well Pad PTIO, and Andes Well Pad PTIO.

The New Source Performance Standards and NSPS Subpart OOOO

3. Section 111 of the CAA, 42 U.S.C. § 7411, requires EPA to implement a New Source Performance Standards ("NSPS") program for the control of air pollutant emissions. NSPS regulations impose nationally uniform emission standards for new or modified stationary sources falling within industrial categories that significantly contribute to air pollution.

4. The NSPS includes Standards of Performance for New Stationary Sources for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015, found in 40 C.F.R. Part 60, Subpart OOOO ("Subpart OOOO").

5. Subpart OOOO establishes emission standards for the control of volatile organic compounds ("VOC") and sulfur dioxide emissions from various types of oil and natural gas production, processing, transmission, storage, and distribution equipment constructed, modified, or reconstructed after August 23, 2011, and on or before September 18, 2015, including storage vessels.

6. Subpart OOOO, at 40 C.F.R. § 60.5430, defines "storage vessel" as a tank or other vessel that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support.

7. A storage vessel is an affected facility subject to Subpart OOOO requirements if a properly performed emission determination indicates that the storage vessel has the potential for VOC emissions equal to or greater than six (6) tons per year. The potential for VOC emissions from a storage vessel must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput determined for a 30-day period of production prior to the applicable emission determination deadline specified in 40 C.F.R. § 60.5365. The determination may take into account requirements under a legally and practically enforceable limit in an operating permit or other requirement established under a Federal, State, local or tribal authority. 40 C.F.R. § 60.5365(e). A storage vessel meeting these criteria is defined as a "storage vessel affected facility."

8. Subpart OOOO, at 40 C.F.R. § 60.5365, provides, among other things, that owners and operators of one or more storage vessel affected facilities constructed, modified or reconstructed after August 23, 2011, and on or before September 18, 2015, are subject to the applicable provisions of Subpart OOOO.

9. Subpart OOOO requires the owner/operator of a storage vessel affected facility to comply with certain emission control requirements:

a. The owner/operator of a storage vessel affected facility must either: (i) reduce VOC emissions from the storage vessel by 95.0 percent; or (ii) maintain the uncontrolled actual VOC emissions from the storage vessel at less than four (4) tons per year without considering control. *See* 40 C.F.R. § 60.5395(d)(1)-(2).

b. For a storage vessel subject to the 95.0 percent emission reduction requirement, the required emission reduction must be achieved by control requirements that include equipping the storage vessel with a cover that meets the requirements of 40 C.F.R. § 60.5411(b), connecting the storage vessel to a closed vent system that meets the requirements of 40 C.F.R. § 60.5411(c), and either: (i) routing the storage vessel vapors to a control device (such as an enclosed combustor) that meets certain requirements; or (ii) routing the storage vessel vapors to a process. *See* 40 C.F.R. § 60.5395(e).

10. Subpart OOOO, at 40 C.F.R. § 60.5411(b), requires that covers on storage vessels meet certain requirements, including that the cover and all openings on the cover shall form a continuous impermeable barrier over the entire surface area of the liquid in the vessel; each cover opening shall be secured in a closed, sealed position except when certain activities are ongoing; and that each storage vessel thief hatch shall be equipped, maintained, and operated with a weighted mechanism or equivalent, to ensure the lid remains properly seated.

11. Subpart OOOO, at 40 C.F.R. § 60.5411(c), requires that the closed vent system is designed to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that

meets the requirements of 40 C.F.R. § 60.5412(c) and (d); and to design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual, and auditory inspections.

12. Subpart OOOO, at 40 C.F.R. § 60.5412(d), requires that each control device used to meet the emission reduction standard in 40 C.F.R. § 60.5395(d) for storage vessel affected facilities must be installed according to 40 C.F.R. § 60.5412(d)(1) through (3), as applicable. As an alternative to 40 C.F.R. § 60.5412(d)(1), owners/operators of storage vessel affected facilities may install a control device model tested under 40 C.F.R. § 60.5413(d), which meets the criteria in 40 C.F.R. § 60.5413(d)(11) and § 60.5413(e).

13. Subpart OOOO, at 40 C.F.R. § 60.5412(d)(1)(i), requires that enclosed combustion control devices be maintained in a leak free condition.

14. Subpart OOOO, at 40 C.F.R. § 60.5413(e), requires that owners/operators of combustion control devices tested by the manufacturer demonstrate that the control device achieves the performance requirements in 40 C.F.R. § 60.5413(d)(11) by installing a device tested under 40 C.F.R. § 60.5413(d) and complying with the criteria specified in 40 C.F.R. § 60.5413(e)(1) through (7).

15. For a storage vessel not subject to a legally and practically enforceable limit on its potential for VOC emissions, the Subpart OOOO emission determination may exclude vapor from the storage vessel that is recovered and routed to a process through a vapor recovery unit designed and operated as specified in Subpart OOOO provided that: (i) the storage vessel meets the cover requirements specified in 40 C.F.R. § 60.5411(b); (ii) the storage vessel meets the closed vent system requirements specified in 40 C.F.R. § 60.5411(c); and (iii) the owner or operator of the storage vessel maintains records that document compliance with the cover requirements specified in 40 C.F.R. § 60.5411(b) and the closed vent system requirements specified in 40 C.F.R. § 60.5411(c) for the storage vessel. *See* 40 C.F.R. § 60.5365(e)(3).

16. If the original emission determination for a storage vessel excluded storage vessel vapor that would be recovered and routed to a process through a vapor recovery unit, the owner or operator must make a new emission determination calculating the storage vessel's potential for VOC emissions within 30 days if: (i) the storage vessel is operated without meeting the cover requirements specified in 40 C.F.R. § 60.5411(b); (ii) the storage vessel is operated without meeting the closed vent system requirements specified in 40 C.F.R. § 60.5411(c); or (iii) the vapor recovery unit is removed. *See* 40 C.F.R. § 60.5365(e)(3)(iv).

17. Subpart OOOO, at 40 C.F.R. § 60.5370(b), requires that at all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

NSPS Subpart OOOOa

18. The NSPS includes Standards of Performance for New Stationary Sources for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, found in 40 C.F.R. Part 60, Subpart OOOOa ("Subpart OOOOa").

19. Subpart OOOOa establishes emission standards for the control of emissions of VOC, sulfur dioxide, and greenhouse gases in the form of methane from various types of equipment at oil and natural gas facilities constructed, modified, or reconstructed after September 18, 2015, including storage vessels.

20. Subpart OOOOa, at 40 C.F.R. § 60.5430a, defines "storage vessel" as a tank or other vessel that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water, and that is constructed primarily of non-earthen materials (such as wood, concrete, steel, fiberglass, or plastic) which provide structural support.

21. Subpart OOOOa, at 40 C.F.R. § 60.5365a(e), provides a storage vessel is an affected facility subject to Subpart OOOOa requirements if a properly performed emission determination indicates that the storage vessel has the potential for VOC emissions equal to or greater than six (6) tons per year. The potential for VOC emissions must be calculated using a generally accepted model or calculation methodology, based on the maximum average daily throughput determined for a 30-day period of production prior to August 2, 2016, or within 60 days after startup (whichever was later). The determination may take into account requirements under a legally and practically enforceable limit in an operating permit or other requirement established under a Federal, State, local or tribal authority.

22. Subpart OOOOa, at 40 C.F.R. § 60.5365a, provides, among other things, that owners and operators of one or more storage vessel affected facilities constructed, modified or reconstructed after September 18, 2015, are subject to the applicable provisions of Subpart OOOOa.

23. Subpart OOOOa requires the owner/operator of a storage vessel affected facility to comply with certain emission control requirements:

a. The owner/operator of a storage vessel affected facility must either: (i) reduce VOC emissions from the storage vessel by 95.0 percent within 60 days after startup; or (ii) maintain the uncontrolled actual VOC emissions from the storage vessel at less than four (4) tons per year without considering control. *See* 40 C.F.R. § 60.5395a(a)(2)-(3).

b. For a storage vessel subject to the 95.0 percent emission reduction requirement, the required emission reduction must be achieved by control requirements that include equipping the storage vessel with a cover that meets the requirements of 40 C.F.R. § 60.5411a(b), connecting the storage vessel to a closed vent system that meets the requirements of 40 C.F.R. § 60.5411a(c) and (d), and either: (i) routing the storage vessel vapors to a control device (such as an enclosed combustor) that meets certain requirements specified in 40 C.F.R. § 60.5412a(c) or (d); or (ii) routing the storage vessel vapors to a process. *See* 40 C.F.R. § 60.5395a(b).

24. Subpart OOOOa, at 40 C.F.R. § 60.5411a(b), requires owners and operators of storage vessel affected facilities to ensure that covers on storage vessels meet certain requirements, including that the cover and all openings on the cover shall form a continuous impermeable barrier over the entire surface area of the liquid in the storage vessel; each cover opening shall be secured in a closed, sealed position except when certain activities are ongoing; and that each storage vessel thief hatch shall be equipped, maintained, and operated with a weighted mechanism or equivalent, to ensure the lid remains properly seated and sealed under normal operating conditions, including such times when working, standing/breathing, and flash emissions may be generated.

25. Subpart OOOOa, at 40 C.F.R. § 60.5411a(c), requires owners and operators of storage vessel affected facilities using a control device to control emissions or routing emissions to a process to design closed vent systems to route all gases, vapors, and fumes emitted from the material in the storage vessel to a control device that meets the requirements of 40 C.F.R. § 60.5412a(c) and (d); and to design and operate a closed vent system with no detectable emissions, as determined using olfactory, visual, and auditory inspections.

26. Subpart OOOOa, at 40 C.F.R. § 60.5412a(d), requires that each control device used to meet the emission reduction standard in 40 C.F.R. § 60.5395a(a)(2) for storage vessel affected facilities must be installed according to 40 C.F.R. § 60.5412a(d)(1) through (4), as applicable. As an alternative to 40 C.F.R. § 60.5412a(d)(1), owners/operators of storage vessel affected facilities may install a control device model tested under 40 C.F.R. § 60.5413a(d), which meets the criteria in 40 C.F.R. § 60.5413a(d)(11) and meets the continuous compliance requirements in 40 C.F.R. § 60.5413a(e).

27. Subpart OOOOa, at 40 C.F.R. § 60.5412a(d)(1)(i), requires that enclosed combustion control devices be maintained in a leak free condition.

28. Subpart OOOOa, at 40 C.F.R. § 60.5413a(e), requires that owners/operators of combustion control devices tested by the manufacturer demonstrate that the control device achieves the performance requirements in 40 C.F.R. § 60.5413a(d)(11) by installing a device tested under 40 C.F.R. § 60.5413a(d) and complying with the criteria specified in 40 C.F.R. § 60.5413a(e)(1) through (8).

29. For a storage vessel not subject to a legally and practically enforceable limit on its potential for VOC emissions, the Subpart OOOOa emission determination may exclude vapor from the storage vessel that is recovered and routed to a process through a vapor recovery unit designed and operated as specified in Subpart OOOOa provided that: (i) the storage vessel meets the cover requirements specified in 40 C.F.R. § 60.5411a(b); (ii) the storage vessel meets the closed vent system requirements specified in 40 C.F.R. § 60.5411a(c) and (d); and (iii) the owner or operator of the storage vessel maintains records that document compliance with the cover requirements specified in 40 C.F.R. § 60.5411a(b) and the closed vent system requirements specified in 40 C.F.R. § 60.5411a(c) and (d) for the storage vessel. *See* 40 C.F.R. § 60.5365a(e)(3).

30. If the original emission determination for a storage vessel excluded storage vessel vapor that would be recovered and routed to a process through a vapor recovery unit, the owner or operator must make a new emission determination calculating the storage vessel's potential for VOC emissions within 30 days if: (i) the storage vessel is operated without meeting the cover requirements specified in 40 C.F.R. § 60.5411a(b); (ii) the storage vessel is operated without meeting the closed vent system requirements specified in 40 C.F.R. § 60.5411a(c) and (d); or (iii) the vapor recovery unit is removed. *See* 40 C.F.R. § 60.5365a(e)(3)(iv).

31. Subpart OOOOa, at 40 C.F.R. § 60.5370a(b), requires that at all times, including periods of startup, shutdown, and malfunction, owners and operators shall maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. The provisions for exemption from compliance during periods of startup, shutdown and malfunctions provided for in 40 C.F.R. § 60.8(c) do not apply to Subpart OOOOa.

The Ohio SIP

32. Pursuant to Section 110(a)(1) of the CAA, 42 U.S.C. § 7410(a)(1), each state is responsible for adopting and submitting to EPA for approval an implementation plan that provides for the implementation, maintenance, and enforcement of National Ambient Air Quality Standards ("NAAQS") for particular pollutants, including ground-level ozone.

33. Under Section 110(a)(2) of the CAA, 42 U.S.C. § 7410(a)(2), each SIP must include enforceable emission limitations and other control measures, means, or techniques, as well as schedules for compliance, as may be necessary to meet applicable requirements, and must include a permit program to provide for the enforcement of these limitations, measures, and schedules as necessary to assure the NAAQS are achieved. Upon EPA's approval of a SIP, the plans become independently enforceable by the federal government, as stated under Section 113(a)(1) of the CAA, 42 U.S.C. § 7413(a)(1).

34. EPA has approved various provisions of the Ohio Administrative Code ("Ohio Admin. Code") as part of the Ohio SIP, including Ohio Admin. Code §§ 3745-31-02 and 3745-31-29. 78 Fed. Reg. 11,748 (Feb. 20, 2013); 80 Fed. Reg. 36,477 (June 25, 2015); 40 C.F.R. § 52.1870(c).

35. The Ohio SIP, at Ohio Admin. Code § 3745-31-29, allows the Director of the Ohio Environmental Protection Agency ("Ohio EPA") to develop model general permits to install and model general permits to operate for certain categories of air emissions sources.

36. The Ohio SIP, at Ohio Admin. Code § 3745-31-02, establishes requirements for installation, modification and operation of new and existing air contaminant sources via a program for sources to obtain a Permit-to-Install (PTI) or a PTIO.

The GP 12.1 and 12.2 Permit Program for Oil and Gas Well-Site Production Operations

37. On January 31, 2012, Ohio EPA finalized a model general permit ("GP 12") to install and operate ("PTIO") for oil and gas well production operations. In April 2014, Ohio EPA revised the GP 12 to incorporate Subpart OOOO requirements and to create two different versions of the model permit ("GP 12.1" and "GP 12.2") for facilities that meet different qualifying criteria.[1]

38. GP PTIO 12.1 and GP PTIO 12.2 expressly incorporate relevant requirements of Subpart OOOO, including those listed at paragraphs 9 through 17. GP PTIO 12.1 and GP PTIO 12.2 supplement, but do not supplant, the requirements of Subpart OOOO for storage vessels at oil and gas well production facilities.

39. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 4. d) (1), state:

> *If the permittee is using the flare/combustion device to demonstrate compliance with 40 CFR 63.771(d) for the TEG dehydrator or to demonstrate compliance with 40 CFR 60.5412(d) for each storage vessel calculated to have VOC emission equal to or exceeding 6 tons per year, the permittee shall maintain the appropriate records to demonstrate that the enclosed flare/combustion device is designed and operated to reduce VOC, TOC, or total HAP by 95% by weight; or the concentration of TOC or Total HAP to 20 ppm by volume on a dry basis and corrected to 3% oxygen, all in accordance*

[1] The different versions pertain to capacities of the flare and engines at the well pad. Both versions of the general permit contain identical language cited in this matter, and so the differences in permit versions are not relevant to this NOV/FOV.

with the applicable rules; or shall maintain the records required to demonstrate that the open flare is designed and operated in accordance with 40 CFR 63.11(b) or 40 C.F.R. 60.18(b), as applicable per federal rules.

40. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 5. c) (2)(a), state:

The permittee shall develop and implement a leak detection and repair program designed to monitor and repair leaks from ancillary equipment covered by this permit, including each pump, compressor, pressure relief device, connector, valve, flange, vent, cover, any bypass in the closed vent system, and each storage vessel. This program shall meet the following requirements. This program shall meet several requirements, including the following: leaks shall be detected by the use of either a "Forward Looking Infra-Red" (FLIR®) camera or an analyzer meeting U.S. EPA Method 21 of 40 C.F.R. Part 60, Appendix A.

[40 CFR 60.5416(c)(4) and (5)], [40 CFR 60.5415(e)(3)]

41. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 5. d) (2)(a), state:

Leaks shall be determined by visually observing each ancillary component through the FLIR camera to determine if leaks are visible.

[40 CFR 60.5416(c)]

42. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 6. b) (2) e., state:

Unless meeting the requirements of 40 CFR 60.5395(d)(2), where the uncontrolled actual VOC emissions can be demonstrated to be less than 4 tons per year, or where it has been demonstrated that the potential VOC emissions are less than 6 TPY, the VOC emissions from each storage vessel affected facility shall be reduced by 95.0 percent by April 15, 2014, or within 60 days after startup, for Group 2 storage vessels; or by April 15, 2015 for Group 1 storage vessels.

[40 CFR 60.5395] and [40 CFR 60.5415(e)(3)]

43. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 6. b) (2) f., state:

Any vapors from storage vessels that are recovered and routed to a vapor recovery unit (VRU) system meeting the cover and closed vent system requirements specified in 40 CFR 60.5411(b) and (c) are not required to be included in the determination of VOC potential to emit for purposes of determining affected facility status for NSPS Subpart OOOO. However, if the VRUs are removed or if the system fails to meet the cover and closed vent system requirements of Subpart OOOO, the potential VOC emissions from each such storage vessel shall be calculated within 30 days of the removal or non-compliant operations of the VRU system.

[40 CFR 60.5365(e)]

44. The GP PTIO 12.1 and GP PTIO 12.2 Permits, at Condition C. 6. c) (2), state:

Each storage vessel subject to the control requirements of Part 60 Subpart OOOO shall be equipped with a cover that meets the requirements of 40 CFR 60.5411(b); and the storage vessel shall be connected through a closed vent system designed and operated with no detectable emissions, as determined using olfactory, visual and auditory inspections, and in accordance with 40 CFR 60.5411(c) to either: 1. an enclosed combustion control device, designed and operated in accordance with 40 CFR 60.5412(d) or 40 CFR 60.5413(d); 2. an open flare meeting the requirements identified in this permit; or 3. to a process. The collection and control systems shall be operated at all times when gases, vapors, and fumes are vented from the subject storage vessels to a control device; and where routing emissions to a process it must be operational 95% or more of the year.

[40 CFR 60.5365(e)], [40 CFR 60.5395], [40 CFR 60.5410(h)], [40 CFR 60.5411(b) and (c)(1) and (2)], and [40 CFR 60.5412(d)] or [40 CFR 60.5413(d)], and [40 CFR 60.5415(e)(3)]

Applicable Permits

45. On October 5, 2015, Ohio EPA issued to Antero PTIO P0119560 for the Fuller Well Pad ("Fuller PTIO"). The Fuller PTIO is effective until its expiration date of October 5, 2025.

46. On May 12, 2017, Ohio EPA issued to Antero PTIO P0122668 for the Schulz Well Pad ("Schulz PTIO"). The Schulz PTIO is effective until its expiration date of May 12, 2027.

47. On October 5, 2015, Ohio EPA issued to Antero PTIO P0119562 for the Troyer Well Pad ("Troyer PTIO"). The Troyer PTIO is effective until its expiration date of October 5, 2025.

48. On June 30, 2015, Ohio EPA issued to Antero PTIO P0119027 for the Warner Well Pad ("Warner PTIO"). The Warner PTIO is effective until its expiration date of June 30, 2025.

49. On May 2, 2018, Ohio EPA issued to Antero PTIO P0124303 for the Andes Well Pad ("Andes PTIO"). The Andes PTIO is effective until its expiration date of March 30, 2028.

50. The Fuller Well Pad PTIO, Schulz Well Pad PTIO, Troyer Well Pad PTIO, Warner Well Pad PTIO, and Andes Well Pad PTIO incorporate all permit conditions of GP PTIO 12.1 and GP PTIO 12.2 (as applicable) listed at paragraphs 37 to 44.

Relevant Factual Background

51. Antero is incorporated in the State of Delaware and doing business in the State of Ohio.

52. Antero maintains a district office located at 27841 State Route 7, Marietta, Ohio.

53. Antero is a "person" within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

54. Antero owns and operates several oil and natural gas well pads, including the ones listed in Attachment A in southeastern Ohio. Each well pad was issued a PTIO under Ohio EPA's General Permit program, either a GP 12.1 or a GP12.2.

55. Each of Antero's well pads listed in Attachment A includes storage vessels that contain an accumulation of condensate or produced water, and that are constructed primarily of non-earthen materials.

56. Antero's storage vessels at the well pads listed in Attachment A were all constructed after August 23, 2011 and are therefore subject to regulation under Subparts OOOO or OOOOa, as applicable based on date of construction[2].

57. On August 29, 2019 (August 2019 Inspection), EPA staff inspected and observed the well pads owned and operated by Antero listed in Attachment A.

58. On March 14-16, 2017 (March 2017 Inspection), EPA staff inspected and observed certain well pads owned and operated by Antero in southeast Ohio in addition to the well pads listed in Attachment A.

59. Each of Antero's storage vessels at the well pads listed in Attachment A had the potential for VOC emissions equal to or greater than six (6) tons per year for a 30-day period of production prior to the applicable emission determination deadline as specified in Subparts OOOO and OOOOa, as applicable.

60. The PTIOs issued to the well pads listed in Attachment A include no legally and practically enforceable limits to restrict the potential VOC emissions from each storage vessel to less than six (6) tons per year.

61. The storage vessels at Antero's well pads listed in Attachment A are "storage vessel affected facilities" under Subparts OOOO or OOOOa, as applicable based on the storage vessels' date of construction.

62. During the August 2019 Inspection, EPA staff detected VOC emissions from thief hatches or pressure relief devices on storage vessels for each video listed at all the well pads in Attachment A by using a FLIR® camera as well as a photo-ionization detector.

63. During the August 2019 Inspection, EPA observed that the enclosed combustors for each video listed at the well pads in Attachment B were not properly operating based on the VOC imaged using a FLIR® camera.

64. During the August 2019 Inspection, Antero indicated that for the periodic monitoring performed with the FLIR® camera of their ancillary equipment located on top of the storage vessels, Antero takes images of those vessels from the base of the battery, and does not image each piece of ancillary equipment at the top of each storage vessel. During the March 2017 Inspection, Antero indicated that they do not access the top catwalk of the tank battery to perform FLIR camera® inspections.

65. During the August 2019 Inspection, EPA observed VOC emissions from vapor recovery unit 9693 at the Andes Well Pad, specifically from the high/low motor valve.

[2] Storage vessels constructed after August 23, 2011 and on or before September 18, 2015 are subject to NSPS Subpart OOOO. Storage vessels constructed after September 18, 2015 are subject to NSPS Subpart OOOOa.

Violations

66. Based on the above described detectable emissions from storage vessels observed by EPA staff at the well pads listed in Attachment A, Antero has failed to ensure that the covers on the storage vessels meet certain requirements, including that the covers and all openings shall form a continuous impermeable barrier over the entire surface area of the liquid in the vessel, and that each cover opening shall be secured in a closed, sealed position except when certain activities are ongoing, violating 40 C.F.R. § 60.5411(b) or § 60.5411a(b), as applicable determined by construction date; and GP 12.1 and 12.2 Permit Conditions C. 4. b) (1) e. and C. 6. c) (2) as applicable.

67. Based on the above described detectable emissions from storage vessels observed by EPA staff, Antero has failed to design the closed vent systems at the well pads in Attachment A to route all gases, vapors and fumes emitted from the material in the storage vessels to a control device, and to design and operate closed vent systems with no detectable emissions, as determined using olfactory, visual, and auditory inspections, violating 40 C.F.R. § 60.5411(c) or § 60.5411a(c), as applicable determined by construction date.

68. Based on the above described detectable emissions from enclosed combustion control devices observed by EPA staff, Antero has failed to ensure that the enclosed combustion control devices at well pads in Attachment B are maintained in a leak free condition, violating 40 C.F.R. § 60.5412(d)(1)(i) or § 60.5412a(d)(1)(i), as applicable determined by construction date; and GP 12.1 and 12.2 Permit Conditions C. 4. b) (1)(a), C. 4. B) (1)(e), and C. 6. c) (2) as applicable.

69. Based on the above described detectable emissions from storage vessels observed by EPA staff, Antero failed to operate its facilities in Attachments A and B in a manner consistent with good air pollution control practice for minimizing emissions, in violation of 40 C.F.R. § 60.5370(b) or § 60.5370a(b), as applicable.

70. Based on Antero's failure to inspect the ancillary equipment on the top of each storage vessel located at each of its well pads, Antero has failed to conduct leak detection and repair monitoring of each piece of ancillary equipment as required in GP 12.1 and 12.2 Permit Conditions C. 5. c) (2)(a) and C. 5. d) (2)(a), as applicable.

MICHAEL HARRIS

Digitally signed by MICHAEL HARRIS
Date: 2020.11.04 16:43:56 -06'00'

Michael D. Harris
Division Director
Enforcement and Compliance Assurance Division

Attachment A

Fuller Well Pad

Image Number	File Name	Date	Description of Image
1	MOV_2355.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #7.
2	MOV_2356.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #6.
3	MOV_2357.mp4	8/29/2019	VOC emissions imaged from the gasket of the emergency vent at tank #6.
4	MOV_2358.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #5.
5	MOV_2359.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #5.
6	MOV_2360.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #8.
7	MOV_2361.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #9.
8	MOV_2362.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #9.
9	MOV_2363.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #3.
10	MOV_2365.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #10.
11	MOV_2366.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #10.
12	MOV_2367.mp4	8/29/2019	VOC emissions imaged from the bottom gasket of the emergency vent at tank #2.
13	MOV_2368.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #2.
14	MOV_2369.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #11.
15	MOV_2370.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank #1.
19	MOV_2371.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #1.
20	MOV_2372.mp4	8/29/2019	VOC emissions imaged from the thief hatch at tank #12.

Schulz Well Pad

1	MOV_2349.mp4	8/29/2019	VOC emissions imaged from the gasket below the thief hatch at the produced water tank #12.

2	MOV_2350.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the produced water tank #1.
3	MOV_2351.mp4	8/29/2019	VOC emissions imaged from the conservation vent and vacuum breaker located in the pipe header above the produced water tanks #1 and #2.
4	MOV_2352.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the produced water tank #2.

Troyer Well Pad

1	MOV_2323.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the produced water tank #1.
2	MOV_2324.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the produced water tank #1.
3	MOV_2325.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #14.
4	MOV_2326.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the produced water tank #2.
5	MOV_2327.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the produced water tank #2.
6	MOV_2328.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #13.
7	MOV_2329.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #13.
8	MOV_2330.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the produced water tank #3.
9	MOV_2331.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the produced water tank #3.
10	MOV_2332.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #12.
11	MOV_2333.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #12.

12	MOV_2334.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #4.
13	MOV_2335.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #11.
14	MOV_2336.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #5.
15	MOV_2337.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #5.
16	MOV_2338.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #10.
17	MOV_2339.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #10.
18	MOV_2340.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #6.
19	MOV_2341.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #6.
20	MOV_2342.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #9.
21	MOV_2343.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #9.
22	MOV_2344.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #7.
23	MOV_2345.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #7.
24	MOV_2346.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the condensate tank #8.
25	MOV_2347.mp4	8/29/2019	VOC emissions imaged from the emergency vent at the condensate tank #8.

Warner Well Pad

1	MOV_2318.mp4	8/29/2019	VOC emissions imaged from the thief hatch at the produced water tank #3.

Andes Well Pad

1	MOV_2373.mp4	8/29/2019	VOC emissions imaged from the conservation vent located above tank#14 on the pipe header to the tank battery.
2	MOV_2374.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank#14.
3	MOV_2375.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank#2.
4	MOV_2376.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank#13.
5	MOV_2377.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank#12.
6	MOV_2378.mp4	8/29/2019	VOC emissions imaged from the emergency vent at tank#6.

Attachment B

Fuller Well Pad

Image Number	File Name	Date	Description of Image
1	MOV_2353.mp4	8/29/2019	VOC emissions imaged from the tank batter and enclosed combustors while the dump was stuck when we arrived to the facility.
2	MOV_2354.mp4	8/29/2019	VOC emissions imaged from the two enclosed combustors.

Troyer Well Pad

1	MOV_2320.mp4	8/29/2019	VOC emissions imaged from the enclosed combustor system, specifically the 3 combustors, except for #2 which was off.
2	MOV_2321.mp4	8/29/2019	No video recorded.
3	MOV_2322.mp4	8/29/2019	VOC emissions imaged from the enclosed combustor system, specifically the 3 combustors, except for #2 which was off.

Warner Well Pad

1	MOV_2319.mp4	8/29/2019	VOC emissions imaged from the enclosed combustor.

Andes Well Pad

1	MOV_2381.mp4	8/29/2019	VOC emissions imaged from one of the five combustors.